11. *Some Fossil Mammals in the South African Museum Collections.** By H. B. S. Cooke, D.Sc., F.R.S.S.Afr. Johannesburg.

(With map and Plate XIX.)

Abstract

The collections of the South African Museum at Cape Town include the first fossil mammal to be discovered in Southern Africa, *Homoioceras bainii.* There are also some two hundred fossil teeth and bones of Quaternary mammals from twenty-four sites, eleven of which have not previously been recorded. Few of the specimens have been mentioned in published literature unless they represented new species, and lists of faunal assemblages exist only for two of the sites — Taung and Florisbad. The present account records all the species identified in the collections and lists the assemblages for each locality.

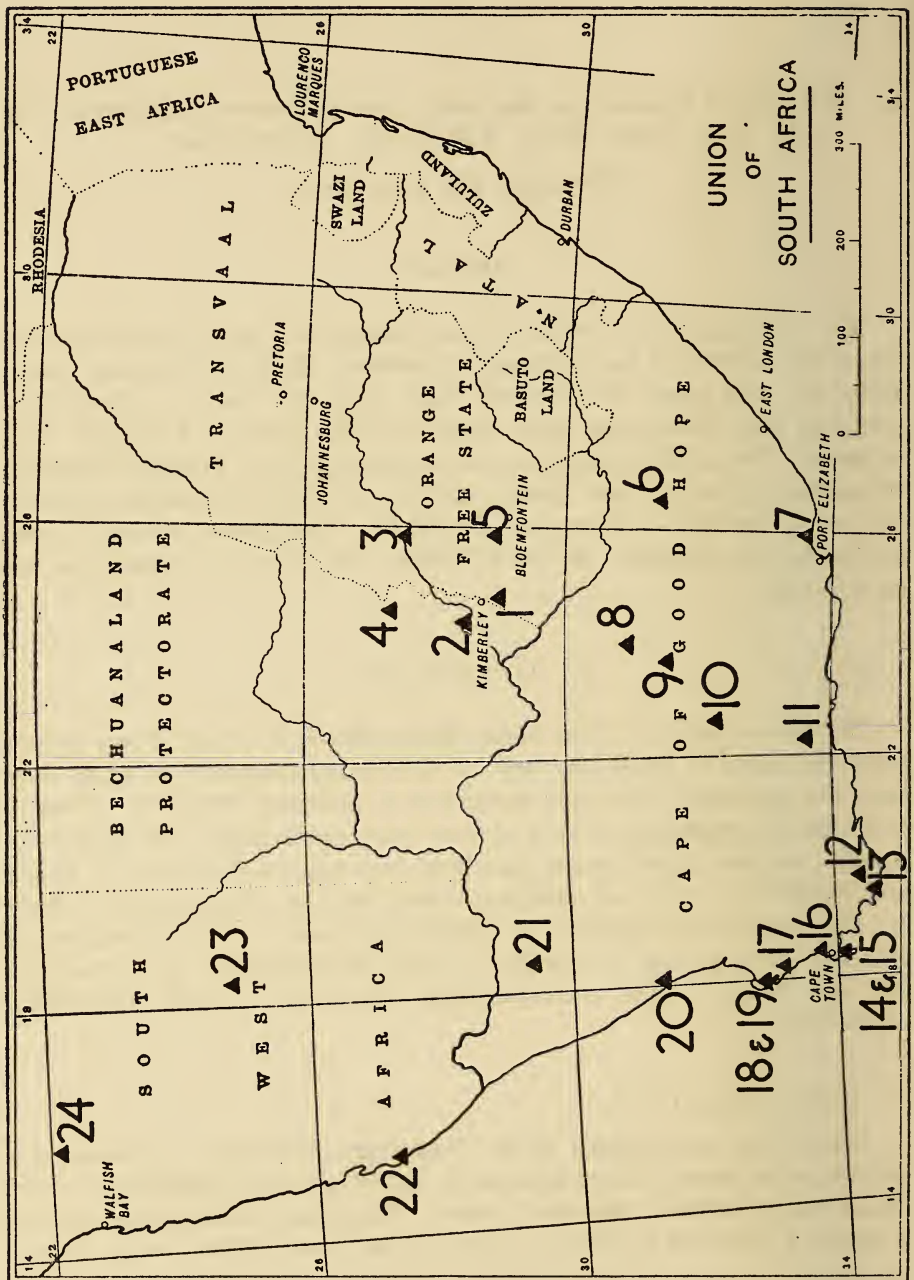
Introduction

The fossil collections of the South African Museum at Cape Town include some two hundred bones and teeth of Quaternary mammals of which only very few specimens have been mentioned in published literature. Twenty-four sites are represented, eleven of these being new records. Of the thirteen known localities, faunal assemblages have been listed only for two — Taung and Florisbad — while the remaining eleven sites have been recorded merely by the mention or description of isolated specimens. It is the purpose of this account to provide as complete a record as possible for the assemblages for each locality. The accompanying map shows the wide distribution of the sites.

1. *Modder River, O.F.S.*

One of the most striking of the Quaternary mammalian specimens displayed in the South African Museum is the frontlet and gigantic horn cores of an extinct buffalo, *"Bubalus" bainii.* The remains were recovered from a depth of forty feet in alluvial deposits of the Modder River, in the Orange

* Read before Section D of the South African Association for the Advancement of Science at its Jubilee Congress in Cape Town, July, 1952.


PORTUGUESE
EAST AFRICA
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JOHANNESBURG
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DURBAN
NATAL
ORANGE FREE STATE
BLOEMFONTEIN
KIMBERLEY
BASUTO LAND
EAST LONDON
PORT ELIZABETH
CAPE OF GOOD HOPE
CAPE TOWN
BECHUANALAND PROTECTORATE
SOUTH WEST AFRICA
WALFISH BAY
UNION OF SOUTH AFRICA
300 MILES
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Free State in 1839. The remarkable civil engineer and naturalist, Andrew Geddes Bain, saw the specimen and persuaded the actual finder, Mr. Martin Smith, to send it to the Geological Society of London. Its subsequent history is uncertain but it was displayed in the South African Museum and was seen by the eminent English palaeontologist, Dr. Seeley, who described it in 1891 under the name *Bubalus bainii.**

Several other specimens of this giant buffalo have since been found in South Africa and three related species have been described from North Africa (1951), East Africa (1933) and the Anglo-Egyptian Sudan (1949). In describing the Sudan specimen, the late Miss D. M. A. Bate (1949, 1951) created a new genus *Homoioceras* for the African long-horned buffaloes and showed that this genus is allied to the African *Syncerus* and is very distinct from the Asiatic *Bubalus*. The South African form is accordingly now *Homoioceras bainii* (Seeley).

Another fossil is recorded as coming from the banks of the Modder River "half way between Kimberley and Bloemfontein". It comprises an imperfect frontlet and partial horn core of a large hartebeest, described by Broom in 1909 and named *Bubalis* [*sic*] *priscus*. If Broom's generic reference is correct it should now be placed in *Alcelaphus* as *A. priscus,* but it is possible that it might fall within the genus *Peloroceras*.

2. *Delport's Hope, Vaal River*

The fauna from this site has been listed by the writer (1949) from material in the McGregor Memorial Museum, Kimberley. The South African Museum collection includes a number of bone fragments from which only the proximal end of a right metacarpal can be identified as belonging to a large bovid, possibly a kudu.

3. *Sheppard Island, Vaal River*

When material from this site was listed by the writer in 1949, it was thought that some of the specimens collected by van Riet Lowe in 1928 had been destroyed in a fire at the University of the Witwatersrand in 1931. Six of these have now been found in the S.A. Museum collections. The species represented are *Equus sandwithi, E. capensis, E. burchelli, Syncerus caffer,* and possibly, a kudu.

4. *Taung*†

In 1920 Haughton described seven small skulls of baboons from the limestone deposit at Taung but the full paper was not published. The name

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* See Appendix, p. 168.

† Union of S. Afr. Rep. Form and Spelling of Geographical Proper Names, 1939, recommended "Taung" instead of the previous "Taungs".

Papio antiquus was proposed and was printed in an abstract (1924). In 1926 J. H. S. Gear collected additional material and distinguished two species, the larger of which he named *Papio africanus* and the smaller *P. izodi,* presumably regarding Haughton's name as a nomen nudum. In 1940 the generic reference was transferred by Broom to *Parapapio* and Gear's views were upheld. In 1948, however, Broom re-examined Haughton's original specimens (which are in the S.A. Museum) and concluded that only the larger species was represented and that the original specific name *antiquus* must be held to ante-date *africanus*. The neotype skull of the species is numbered S.A.M. 5356 and the best jaw is S.A.M. 5357. The generic reference remains amended and the correct designation is now *Parapapio antiquus* (Haughton).

5. *Florisbad (Hagenstad Salt Pan)*

The S.A. Museum collections include a selection of specimens from the spring deposit at Florisbad first described briefly by Broom (1913) and later by Dreyer and Lyle (1931), whose list is complete but subject to several specific amendments. The assemblage includes the following species: *Pedetes hagenstadi, Aonyx robustus, Diceros bicornis, Equus quagga, E. lylei, E. capensis, Hippopotamus amphibius, Phacochoerus helmei, P. compactus, P. aethiopicus, Homoioceras bainii, Pelea capreolus, Pelorocerus helmei, Connochaetes antiquus* (?), *Damaliscus albifrons, Taurotragus oryx, Strepsiceros strepsiceros, Gazella bondi* (?), *Antidorcas marsupialis, Cephalophus* sp., *Sylvicapra grimmia.*

6. *Hoogstede, Tarkastad District*

Five specimens from the farm Hoogstede, west of Queenstown, are lightly mineralised and are probably surface finds. One specimen is a tooth of a domestic ox. The remainder represent a lion, *Equus burchelli* and *Pelorocerus* sp., possibly *P. broomi.*

7. *Zwartkops, Sundays River*

A small fragment of an upper molar of *Hippopotamus* sp. is the only fossil mammal from this locality, which has yielded much invertebrate material to other collections.

8. *Victoria West*

From the farm Jakkalsfontein near Victoria West comes an upper molar of *Equus burchelli.* There is an upper premolar of *Equus capensis* from an unknown locality in the same area.

9. *Brakfontein, Three Sisters*

A single specimen from the farm Brakfontein, near Three Sisters, is a fragment of a left lower jaw of *Diceros bicornis*.

10. *Beaufort West*

A lightly mineralised milk molar of *Equus* cf. *burchelli* comes from the farm Little England near Beaufort West.

11. *Cango Caves, Oudtshoorn*

Six specimens from the Cango Caves are referable to *Procavia capensis, Connochaetes* sp. and *Tragelaphus* cf. *scriptus*.

12. *Linkerhandsgat and Nooitgedacht, Stanford*

A few miles north-east of Stanford is an unusual occurrence of chalky limestone and calcified sands containing bones and teeth of mammals. Three specimens from Linkerhandsgat are identified as *Crocuta* sp., *Thos mesomelas* and *Alcelaphus* cf. *caama*. From the adjoining farm Nooitgedacht, there are three fragments representing *Redunca arundium* and *Aepyceros melampus*. A larger private collection and material collected by the writer will be dealt with at some length in a separate paper.

13. *Hawston*

The sand-dunes along the coast near Stanford and Hawston have yielded almost unmineralised teeth of the African elephant and of the black rhinoceros.

14. *Skildegat Cave, Fish Hoek*

This cave, also known as Peers' Cave, was excavated twenty-five years ago by B. and V. Peers and it is probable that the eight teeth from this locality which are in the S.A. Museum collections were recovered during the excavations. A bovid incisor cannot be determined generically but the remaining specimens belong to *Equus zebra* and *E. capensis*.

15. *Kalk Bay*

This area yielded three molars of *Hippopotamus amphibius* and part of a lower molar of *Loxodonta africana*.

16. *Yzerplaats, Maitland District*

The type series of teeth of *Equus capensis,* described by Broom in 1909 and figured in 1928, was contained in a block of limestone washed up on the beach at Yzerplaats.

17. *Bloembosch, Darling District*

The dune-covered farm Bloembosch, north of Yzerplaats, has furnished nearly fifty specimens, including bones, imperfect jaws and isolated teeth. *Equus capensis* is abundant, the collection including the plesiotype upper left second molar referred to Broom's species by Haughton (1932). Other equine material is not specifically identifiable except for an unmineralised lower jaw of a young *Equus zebra*. *Diceros bicornis* occurs. The only carnivore is *Crocuta crocuta*. Artiodactyls include *Hippopotamus* cf. *amphibius, Giraffa camelopardalis, Homoioceras bainii, Syncerus caffer, Connochaetes* sp., *Hippotragus* cf. *niger*. The two lower mandibles which the writer (Cooke 1947) named *Hippotragus problematicus,* are also in the collection; it was suggested that these jaws might represent the almost unknown *H. leucophaeus* but Dr. Broom informed the writer shortly before his death that he had found material of the Blue Buck during his last European-American tour and that the Bloembosch fossil was clearly distinct. His notes and drawings have not so far been found.

The recently discovered site at Elandsfontein, near Hopefield, which is being studied by the University of Cape Town, has yielded abundant fossil material of a character similar to the Bloembosch specimens;* it has also provided a fossil human cranium.

18. *Saldanha Bay*

The only species represented by the five isolated teeth from this locality is *Equus capensis*. One of the specimens is the isolated upper fourth premolar described by Broom (1913) as "from Darling", and another is the plesiotype left lower premolar described by Haughton (1932).

19. *Hoedjiesbaai*

The limestone quarries at Hoedjiesbaai, near Saldanha Bay, have furnished sixteen very nice specimens, mostly partial jaws with teeth. The five species are *Procavia* cf. *capensis, Thos mesomelas, Arctocephalus pusillus, Suricata* sp. (or possibly *Cynictis*), and *Raphicerus campestris*. This is believed to be the first record of the Cape sea lion in the fossil state.

20. *Geelwal Karoo, Van Rhynsdorp District*

This site has provided a partial lower jaw of *Thos mesomelas*.

21. *Near Springbok, Namaqualand*

A site 40 miles east of Springbok yielded the type series of cheek teeth described by Haughton (1932) as *Notohipparion namaquense*. The original illustration exaggerates the breadth of the crowns as the plane of drawing is parallel to the rather oblique grinding surface.

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* See: Following article by R. Singer and E. N. Keen.

22. *Bogenfels, S.W.A.*

The collections include an incomplete lower jaw from Bogenfels, S.W.A., labelled *"Propalaeonyx africanus* Stromer". It comes, presumably, from the so-called Miocene beds.

23. *Kalk Plateau, S.W.A.*

Two equine teeth, apparently of *Equus burchelli,* are recorded as coming from a well on the Kalk Plateau east of Marienthal in S.W.A.

24. *Usakos, S.W.A.*

The type series of upper and lower cheek teeth of *Equus sandwithi* (Haughton 1932), was associated with a number of other specimens not previously mentioned. It is now possible to reconstruct all the cheek teeth, though not of a single individual. One tooth of *Equus capensis* is also represented in the assemblage, and the bovid genera *Connochaetes* and *Strepsiceros* are present but the species cannot be determined.

25. *Other Localities*

The collection includes a lime-encrusted upper premolar of *Equus* cf. *zebra* from Broken Hill, Northern Rhodesia. There is a piece of grey limestone from the vicinity of Mt. Lemagrut (near the famous Olduvai gorge), with part of the left lower jaw of a rhinoceros exposed.

26. *Unknown Localities*

Twenty specimens are without locality records. The species represented are *Equus burchelli, E. kuhni, E. capensis, Hippopotamus* sp., *Damaliscus* sp., *Connochaetes* sp. and *Phacochoerus* sp.

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APPENDIX

Bubalus bainii

The date when the specimen was received at the Museum is not recorded. Two entries in the Account Book for 1856 may refer to this specimen: "March. To Ford repairing horns, £1 15s." Ford had already repaired the models of natives, presumably made of plaster, thus having a knowledge of plaster-work, which would be suitable for the repair of fossils. "September. To G. West, paint for fossil head, 3s. 6d."

The skull was on exhibition over the entrance to the old Museum (now the west wing of the South African Library) in 1860, when Layard compiled his Catalogue:

"Immediately overhead is a magnificent fossil frontlet of an extinct bovine from Thaba 'Nchu." (Layard, E. L. *Catalogue of the South African Museum,* Part 1, Mammals, p. 7. Cape Town, 1862. Preface dated 1st January, 1861, publication delayed until 1862. See Annual Report S.A. Mus. for 1862.) It was in the same position when Seeley saw it.

The locality Thaba 'Nchu is not mentioned in Bain's references to this fossil Bovine. Bain did not visit the eastern part of the Orange Free State until 1845. Thaba 'Nchu, however, does lie within the catchment area of the sources of the Modder River. Layard's entry seems to be the only record of the locality, unless possibly a more precise site can be traced by research in the Deeds Office for Mr. Martin Smith's farm — if he possessed one.

In Dr. Cooke's map the site of the locality (No. 1) is placed south of Kimberley in the western part of the Orange Free State; but if Layard was correct it should be placed in the eastern part between Bloemfontein and the border of Basutoland.

Seeley (p. 201) gave two reasons for considering this type specimen as the one referred to by Bain in 1839. The second reason seems to be acceptable. In his letter to Sir H. de la Beche in 1844, read to the Geological Society in 1845, and printed (abridged) in Trans. Geol. Soc. Lond. (2), VII, 4, 1856, Bain said that Martin Smith's fossil was "in Cape Town". The South African Museum possesses Bain's own copy of this part of the Transactions, in which two words have been added by Bain (p. 59) to make the sentence read: "This fossil is now in *the* Cape Town *Museum.*"

Seeley's first reason is less acceptable because there may be two interpretations. Thomas Bain's words "his father's fossil" may mean either the fossil which his father induced Martin Smith to send to Cape Town, or an example which A. G. Bain himself found.

It is, therefore, appropriate to reproduce here (pl. XIX) Bain's MS. drawing and description (from memory) of a specimen of this bovine which he himself found on Mr. G. Southey's farm near Graaff-Reinet. The original sketch is in the S. Afr. Museum library — but what happened to the specimen?

See: Lister, M. H. *Journals of Andrew Geddes Bain.* Van Riebeeck Soc. Publ. No. 30, p. 230. Cape Town, 1949. Also Seeley, H. G., 1891 (*op. cit. supra*).

[Ed.]